

## WHAT IS CLAIMED IS:

1. A table look-up method for Abstract Syntax Notation encoding/decoding systems comprises the steps of:
  - a. receive input data;
  - 5 b. adding a specified index on the received input data;
  - c. analyzing the received data whether contains explicit reference data, implicit reference data or optional data;
  - d. storing above explicit reference data, implicit reference data and optional data; modifying and storing the specified index of the data;
  - 10 e. comparing the consistency of the modified specified index with a specified index in the reference table; and
  - f. if it is consistent, the data is viewed as fully decoded.
2. The method as claimed in claim 1, wherein the step (c) further comprising  
15 comparing input data with a reference table, where if the corresponding reference table contains word “Explicit”, the input data is viewed as having explicit reference data.
3. The method as claimed in claim 1, wherein the step (d) further comprising  
20 modifying the specified index of explicit reference data by combining the specified index and its content.
4. The method as claimed in claim 1, wherein the step (c) further comprising  
25 comparing input data with a reference table further comprising if the corresponding reference table contains word “Implicit”, the input data is viewed as having implicit reference data.

5. The method as claimed in claim 1, wherein the step (d) further comprising comparing the implicit reference data with the reference table to obtain data properties and to become the modified data.
- 5 6. The method as claimed in claim 1, wherein the step (d) further comprising deleting the optional data if its content is "Null".
7. The method as claimed in claim 1, wherein the step (b) further comprising adding a specified index is to built a ASN.1 special data catalog for clearly  
10 listing various data tags, data structure types and various ASN properties.
8. The method as claimed in claim 1, wherein the received data is a digital serial data.
- 15 9. The method as claimed in claim 1, wherein the received data also including the following three types: OPTIONAL / DEFAULT / ANY.
10. The method as claimed in claim 1, wherein the specified index is used for identifying the format of received data from the corresponding reference table.

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